

## CLAIMS

**What is claimed is:**

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1. A method in a data processing system for simplifying a graphical representation of code, the code having a plurality of related elements, wherein a first of the plurality of related elements corresponds to a first participant in a pattern, and wherein a second of the plurality of related elements corresponds to a second participant in the pattern, the method comprising the steps of:
    - receiving a request to simplify a portion of the graphical representation of the code associated with the pattern;
    - determining that the first and the second related elements are related to each other;
    - displaying a representative symbol in lieu of the graphical representation of the first and the second related elements responsive to determining that the first and the second related elements are related to each other;
    - displaying a pattern collapsed tag in association with the representative symbol;
    - displaying a pattern name in association with the representative symbol;
    - displaying an identification for the first related element in association with the representative symbol; and
    - displaying an identification for the second related element in association with the representative symbol.
  2. The method of claim 1, wherein the determining step comprises the step of searching a comment field in the code for identification information.
  3. The method of claim 1, wherein the determining step comprises the step of searching the code for a naming convention related to the first and second participant.
  4. The method of claim 1, wherein the determining step comprises the step of searching the code for a pattern construct related to the first participant.

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5. The method of claim 1, further comprising the step of detecting a third related element in the code corresponding to a third participant in the pattern, wherein the representative symbol is further displayed in lieu of the graphical representation of the third related element.

5 6. The method of claim 1 further comprising the steps of:  
receiving a modification to the representative symbol; and  
editing a portion of the code reflecting the modification to the representative symbol.

10 7. A method in a data processing system for simplifying a graphical representation of code, the code having a first related element corresponding to a first participant in a pattern and a second related element corresponding to a second participant in the pattern, the method comprising the steps of:

receiving a request to simplify a portion of the graphical representation of the code associated with the pattern;  
detecting that the first and the second related elements are related to each other;  
15 displaying a representative symbol in lieu of the graphical representation of the first and the second related elements responsive to determining that the first and the second related elements are related to each other; and  
displaying a pattern collapsed tag in association with the representative symbol.

8. The method of claim 7, wherein the determining step comprises the step of  
20 searching the code for identification information in a comment field in the code.

9. The method of claim 7, wherein the determining step comprises the step of searching the code for a naming convention related to the first participant.

10. The method of claim 7, wherein the determining step comprises the step of searching the code for a pattern construct related to the first participant.

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11. The method of claim 7, wherein the code has a third related element corresponding to a third participant in a pattern, the method further comprising the step of determining that the third related element is related to the first and the second related element; and
- 5        displaying the representative symbol in lieu of the graphical representation of the third related element responsive to detecting that the first, the second and the third related elements are related to each other.
12. The method of claim 7 further comprising the steps of:  
receiving a modification to the representative symbol; and  
10      editing a portion of the code reflecting the modification to the representative symbol.
13. A method in a data processing system for simplifying a graphical representation of code, the code having a first related element corresponding to a first participant in a pattern and a second related element corresponding to a second participant in the pattern, the method comprising the steps of:  
15      determining that the first and the second related elements are related to each other;  
              and  
              displaying a representative symbol in lieu of the graphical representation of the first and the second related elements responsive to determining that the first and the second related elements are related to each other.
- 20      14. The method of claim 13, wherein the determining step comprises the step of searching the code for identification information in a comment field in the code.
15. The method of claim 13, wherein the determining step comprises the step of searching the code for a naming convention related to the first participant.
- 25      16. The method of claim 13, wherein the determining step comprises the step of searching the code for a pattern construct related to the first participant.

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17. The method of claim 13, further comprising the step of detecting a third related element in the code corresponding to a third participant in the pattern, wherein the representative symbol is further displayed in lieu of the graphical representation of the third related element.
- 5        18. The method of claim 13 further comprising the steps of:  
receiving a modification to the representative symbol; and  
editing a portion of the code reflecting the modification to the representative symbol.
- 10      19. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having code having a plurality of related elements, wherein a first of the plurality of related elements corresponds to a first participant in a pattern, and a second of the plurality of related elements corresponds to a second participant in the pattern, the method comprising the steps of:  
receiving a request to simplify a portion of the graphical representation of the code associated with the pattern;  
determining that the first and the second related elements are related to each other;  
displaying a representative symbol in lieu of the graphical representation of the first and the second related elements responsive to determining that the first and the second related elements are related to each other;  
displaying a pattern collapsed tag in association with the representative symbol;  
displaying a pattern name in association with the representative symbol;  
displaying an identification for the first related element in association with the representative symbol; and  
displaying an identification for the second related element in association with the representative symbol.
- 20      25      20. The computer-readable medium of claim 19, wherein the determining step comprises the step of searching the code for identification information in a comment field in the code.

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21. The computer-readable medium of claim 19, wherein the determining step comprises the step of searching the code for a naming convention related to the first participant.

22. The computer-readable medium of claim 19, wherein the determining step  
5 comprises the step of searching the code for a pattern construct related to the first participant.

23. The computer-readable medium of claim 19, wherein the method further  
comprises the step of detecting a third related element in the code corresponding to a third  
10 participant in the pattern, wherein the representative symbol is further displayed in lieu of  
the graphical representation of the third related element.

24. The computer-readable medium of claim 19, wherein the method further  
comprises the steps of:

receiving a modification to the representative symbol; and  
editing a portion of the code reflecting the modification to the representative symbol.

15. 25. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having code having a first related element corresponding to a first participant in a pattern and a second related element corresponding to a second participant in the pattern, the method comprising the steps of:

20 receiving a request to simplify a portion of the graphical representation of the code associated with the pattern;  
detecting that the first and the second related elements are related to each other;  
displaying a representative symbol in lieu of the graphical representation of the first and  
25 the second related elements responsive to determining that the first and the second related elements are related to each other; and  
displaying a pattern collapsed tag in association with the representative symbol.

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26. The computer-readable medium of claim 25, wherein the determining step comprises the step of searching the code for identification information in a comment field in the code.

27. The computer-readable medium of claim 25, wherein the determining step  
5 comprises the step of searching the code for a naming convention related to the first participant.

28. The computer-readable medium of claim 25, wherein the determining step comprises the step of searching the code for a pattern construct related to the first participant.

10 29. The computer-readable medium of claim 25, wherein the method further comprises the step of detecting a third related element in the code corresponding to a third participant in the pattern, wherein the representative symbol is further displayed in lieu of the graphical representation of the third related element.

15 30. The computer-readable medium of claim 25, wherein the method further comprises the steps of:  
receiving a modification to the representative symbol; and  
editing a portion of the code reflecting the modification to the representative symbol.

20 31. A computer-readable medium containing instructions for controlling a data processing system to perform a method, the data processing system having code having a first related element and a second related element, the method comprising the steps of:  
detecting that the first and the second related elements are related to each other; and  
displaying a representative symbol in lieu of the graphical representation of the first and the second related elements responsive to determining that the first and the second related elements are related to each other.

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32. The computer-readable medium of claim 31, wherein the determining step comprises the step of searching the code for identification information in a comment field in the code.
33. The computer-readable medium of claim 31, wherein the determining step  
5 comprises the step of searching the code for a naming convention related to the first participant.
34. The computer-readable medium of claim 31, wherein the determining step comprises the step of searching the code for a pattern construct related to the first participant.
- 10 35. The computer-readable medium of claim 31, wherein the method further comprises the step of detecting a third related element in the code corresponding to a third participant in the pattern, wherein the representative symbol is further displayed in lieu of the graphical representation of the third related element.
- 15 36. The computer-readable medium of claim 31, wherein the method further comprises the steps of:  
receiving a modification to the representative symbol; and  
editing a portion of the code reflecting the modification to the representative symbol.

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37. A data processing system comprising:  
a secondary storage device further comprising code having a first related element  
corresponding to a first participant in a pattern and a second related element  
corresponding to a second participant in the pattern;
- 5 a memory device further comprising a program that receives a request to simplify a  
portion of a graphical representation of the code associated with the pattern,  
that determines whether the first and the second related elements are related  
to each other, that displays a representative symbol in lieu of the graphical  
representation of the first related element and the second related element  
responsive to the first and the second related elements being related to each  
other, and that displays a pattern collapsed tag in association with the  
representative symbol to reflect a collapsed state for the pattern; and
- 10 a processor for running the program.
38. The data processing system of claim 37, wherein when determining that the  
first and the second related elements are related to each other, the program searches the code  
for identification information in a comment field in the code.
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39. The data processing system of claim 37, wherein when determining that the  
first and the second related elements are related to each other, the program searches the code  
for a naming convention related to the first participant.
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40. The data processing system of claim 37, wherein when determining that the  
first and the second related elements are related to each other, the program searches the code  
for a pattern construct related to the first participant.
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41. The data processing system of claim 37, wherein the program further detects  
a third related element in the code corresponding to a third participant in the pattern,  
wherein the representative symbol is further displayed in lieu of the graphical representation  
of the third related element.

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42. The data processing system of claim 37, wherein the program further:  
receives a modification to the representative symbol; and  
edits a portion of the code reflecting the modification to the representative symbol.

43. A system for simplifying a graphical representation of code, the code having  
5 a first related element and a second related element, the system comprising:

means for determining that the first and the second related elements are related to  
each other; and

means for displaying a representative symbol in lieu of the graphical representation  
of the first and the second related elements responsive to detecting that the  
first and the second related elements are related to each other.

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